CLAIMS

WHAT IS CLAIMED IS:

1. A watercraft that receives impact energy from its environment during use, the watercraft comprising:

a hull;

a deck coupled to the hull;

an apparatus that provides structural support to the hull and the deck, the apparatus including:

a member disposed along an interior surface of the hull and extending along at least a portion of the longitudinal direction of the hull;

a first support coupled to the member and the deck;

wherein the apparatus is configured to return at least a portion of the impact energy to the environment.

2. The watercraft of Claim 1 wherein the member is retained in place by pressure exerted on the first support by the deck and the hull.

3. The watercraft of Claim 1 further comprising a seat coupled to the apparatus and configured to be adjustable between at least a first position and a second position wherein the seat comprises a seating surface and a slide member configured to operatively engage the member.

4. The watercraft of Claim 3 wherein the slide member includes a first hole and a second hole longitudinally displaced relative to the first hole, and the member includes a third hole, wherein the slide member may be moved so that the third hole aligns with either the first hole to locate the seat in the first position or with the second hole to locate the seat in the second position.

5. The watercraft of Claim 4 further comprising a pin that may inserted through the holes to couple the slide member to the member and selectively retain the seat in the first position or the second position.

6. The watercraft of Claim 1 wherein the first support comprises a brace and a pillar member captured between the brace and the member.

7. The watercraft of Claim 6 wherein the member comprises a U-channel configured to receive a portion of the pillar member.

8. The watercraft of Claim 7 wherein the pillar member comprises a rigid closed cell foam.

9. The watercraft of Claim 6 further comprising at least one grab loop coupled to the brace through the deck.

10. The watercraft of Claim 1 wherein the first support is coupled to the member by one or more fasteners.

11. The watercraft of Claim 1 wherein the apparatus further comprises a second support coupled to the member and the deck, wherein the first support is coupled proximate to a first end of the member and the second support is coupled proximate to a second end of the member.

12. The watercraft of Claim 1 further comprising a brace support member coupled to the deck and a thigh brace selectively coupled to the brace support member, wherein the brace support member comprises a slot and the thigh brace comprises a linear slot and an arcuate slot, wherein a first fastener is inserted through the linear slot on the thigh brace and the slot on the brace support member and a second fastener is inserted through the arcuate slot on the thigh brace and the slot on the brace support member so that the thigh brace may be adjusted horizontally relative to the longitudinal direction of the watercraft, and pivotally.

13. The watercraft of Claim 1 wherein the apparatus is configured to return substantially all of the impact energy to the environment.

14. The watercraft of Claim 1 wherein the watercraft is a kayak.

15. An apparatus to provide structural support for a watercraft having a hull and a deck and configured to receive impact energy from its environment during use, the apparatus comprising:

a member coupled to the hull and extending along at least a portion of the longitudinal direction of the hull;

a first support coupled to the member and the deck;

wherein the member and the first support are configured to return at least a substantial portion of the energy to the environment.

16. The apparatus of Claim 15 wherein the member is made from aluminum.

17. The apparatus of Claim 15 wherein the first support comprises a brace and a pillar member captured between the brace and the member.

18. The apparatus of Claim 17 wherein the member comprises a U-channel configured to receive a portion of the pillar member.

19. The apparatus of Claim 17 wherein the pillar member comprises a rigid closed cell foam.

20. The apparatus of Claim 15 wherein the apparatus further comprises a second support coupled to the member and to the deck, and wherein the first support is coupled proximate to a first end of the member and the second support is coupled proximate to a second end of the member.

21. The apparatus of Claim 15 wherein the impact energy is in the form of at least one of a wave, a rock, or a log impacting the hull of the watercraft.

22. An apparatus to provide structural support for a watercraft having a hull and a deck and configured to receive impact energy from its environment during use, the apparatus comprising:

a member coupled to the hull and extending along at least a portion of the longitudinal direction of the hull;

a front support coupled to the deck and the member;

a rear support coupled to the deck and the member;

wherein the member and the front support and the rear support are configured to return at least a portion of the impact energy from the watercraft to the environment.

23. The apparatus of Claim 22 wherein the first support comprises a brace and a pillar member captured between the brace and the member.

24. The apparatus of Claim 23 wherein the member comprises a U-channel configured to receive a portion of the pillar member.

25. The apparatus of Claim 23 wherein the pillar member comprises a rigid closed cell foam.

26. A watercraft that receives impact energy from its environment during use, the watercraft comprising:

a hull;

a deck coupled to the hull;

means for providing structural support to the hull and for returning at least a portion of the impact energy to the environment.

27. The watercraft of Claim 1 wherein the structural support means is retained in place by pressure exerted on the structural support means by the deck and the hull.

28. The watercraft of Claim 1 wherein the means for providing structural support to the hull and for returning at least a portion of the impact energy to the environment comprises a member disposed along an interior surface of the hull and extending along at least a portion of the longitudinal direction of the hull and a first support coupled to the member and the deck.